

SEQUENCE LISTING

<110> ADVANCED RESEARCH AND TECHNOLOGY INSTITUTE, INC.
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 CATT, DIANA M

<120> METHODS AND COMPOSITIONS FOR PROMOTING ORAL HEALTH, AND
 POLYPEPTIDES USEFUL FOR SAME

<130> IU-104

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<150> PCT/US00/11992
 <151> 2000-05-03

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<170> PatentIn version 3.3

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<222> (96)..(1103)

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                               Met Asn Gln Lys Ile Val
                               1                               5

gtc att tcg tca ttt tac atg tta ggt gct cat tca ttt tca aag gca      161
Val Ile Ser Ser Phe Tyr Met Leu Gly Ala His Ser Phe Ser Lys Ala
                               10                               20

gta tat cat aat gat agg agt gtg aaa ctt atg aaa aga att gat att      209
Val Tyr His Asn Asp Arg Ser Val Lys Leu Met Lys Arg Ile Asp Ile
                               25                               30                               35

aat cat caa gca caa cgt ttt tct att cgt aaa tat gca ttt gga gct      257
Asn His Gln Ala Gln Arg Phe Ser Ile Arg Lys Tyr Ala Phe Gly Ala
                               40                               45                               50

gca tct gtt tta att ggc tgt gtc ttt ttt cta ggt acc caa aat gtt      305
Ala Ser Val Leu Ile Gly Cys Val Phe Phe Leu Gly Thr Gln Asn Val
55                               60                               65                               70

tct gca caa gag cag gga act caa ttg cca gca agt gaa aac gca gtt      353
Ser Ala Gln Glu Gly Thr Gln Leu Pro Ala Ser Glu Asn Ala Val
                               75                               80                               85

gtg aac gtg gct gaa aat tca gtt gct atc agc caa gca gtt gca gat      401
Val Asn Val Ala Glu Asn Ser Val Ala Ile Ser Gln Ala Val Ala Asp
90                               95                               100

aag gca gca act caa aca act cta aca gaa aca ccc caa gtt gaa gtt      449
Lys Ala Ala Thr Gln Thr Thr Leu Thr Glu Thr Pro Gln Val Glu Val
105                               110                               115

gag gag aaa gaa agt aag gta aat gct cct gct tta aat gtc gat gac      497
Glu Glu Lys Glu Ser Lys Val Asn Ala Pro Ala Leu Asn Val Asp Asp
120                               125                               130

aaa ggt gca aaa tcc aaa gaa gat gtg aac cct act att tca aag aca      545
Lys Gly Ala Lys Ser Lys Glu Asp Val Asn Pro Thr Ile Ser Lys Thr
135                               140                               145                               150

gca agt gaa gtg gaa gct tct gca gta act gct act gat act aaa aat      593
Ala Ser Glu Val Glu Ala Ser Ala Val Thr Ala Thr Asp Thr Lys Asn
155                               160                               165

tca aat cca caa gtc aat gtt gaa act gac tca agt gaa aaa gac gaa      641
Ser Asn Pro Gln Val Asn Val Glu Thr Asp Ser Ser Glu Lys Asp Glu
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aat aaa atg gtc acc tcg gct cca gct aag gag act gag gca gaa caa      689
Asn Lys Met Val Thr Ser Ala Pro Ala Lys Glu Thr Glu Ala Glu Gln
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aat gag aaa gcg gtc aga gaa aat ctt atg caa aga caa gct aag gct      737
Asn Glu Lys Ala Val Arg Glu Asn Leu Met Gln Arg Gln Ala Lys Ala
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gtc tca att cca tcg caa ggc aat tat gtt ttc caa gaa aca act cct      785
Val Ser Ile Pro Ser Gln Gly Asn Tyr Val Phe Gln Glu Thr Thr Pro
215                               220                               225                               230

gta aaa aat gca gcc agt atg tcc agc cca acc caa ttt aac ttt gat      833
Val Lys Asn Ala Ala Ser Met Ser Ser Pro Thr Gln Phe Asn Phe Asp
235                               240                               245

aaa gga gat aag gtt ttt tat gat aat gtt tta gaa gcg gat ggg cat      881
Lys Gly Asp Lys Val Phe Tyr Asp Asn Val Leu Glu Ala Asp Gly His
250                               255                               260

caa tgg att agc tat gtg tct tac agt ggt att cgt cgc tat gct cct      929
Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile Arg Arg Tyr Ala Pro
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att gct gtg aca att gaa gaa ttg aag caa aaa gaa att gtt cag caa 977
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 280 285 290

aat tta ccg gca caa gga acc tat cac ttt act aaa cag cag agc tta 1025
 Asn Leu Pro Ala Gln Gly Thr Tyr His Phe Thr Lys Gln Gln Ser Leu
 295 300 305 310

aaa atg aag cta aac tgt cta gtc cga ccc aat tct cgt ttt aca acg 1073
 Lys Met Lys Leu Asn Cys Leu Val Arg Pro Asn Ser Arg Phe Thr Thr
 315 320 325

gag atc acg ttt ttt atg ata agg ttt tag aagcggatgg acatcaatgg 1123
 Glu Ile Thr Phe Phe Met Ile Arg Phe
 330 335

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caaccctctc caattgaac taaagtatca ggtactattg tcatccaaaa taaaacggct 1243

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gttggttgag gaaagacaac gacagtagaa gcccctaata gagcaatctt ccagcacaag 1843

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ga 2025

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His Ser Phe Ser Lys Ala Val Tyr His Asn Asp Arg Ser Val Lys Leu
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Met Lys Arg Ile Asp Ile Asn His Gln Ala Gln Arg Phe Ser Ile Arg
 35 40 45

Lys Tyr Ala Phe Gly Ala Ala Ser Val Leu Ile Gly Cys Val Phe Phe
 50 55 60

Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro
 65 70 75 80

Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile
 85 90 95

Ser Gln Ala Val Ala Asp Lys Ala Ala Thr Gln Thr Thr Leu Thr Glu
100 105 110

Thr Pro Gln Val Glu Val Glu Glu Lys Glu Ser Lys Val Asn Ala Pro
115 120 125

Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn
130 135 140

Pro Thr Ile Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr
145 150 155 160

Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp
165 170 175

Ser Ser Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys
180 185 190

Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Arg Glu Asn Leu Met
195 200 205

Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val
210 215 220

Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro
225 230 235 240

Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Asn Val
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Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly
260 265 270

Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln
275 280 285

Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe
290 295 300

Thr Lys Gln Gln Ser Leu Lys Met Lys Leu Asn Cys Leu Val Arg Pro
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Asn Ser Arg Phe Thr Thr Glu Ile Thr Phe Phe Met Ile Arg Phe
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aaa tat gca ttt gga gct gca tct gtt tta att ggc tgt gtc ttt ttt 96
Lys Tyr Ala Phe Gly Ala Ala Ser Val Leu Ile Gly Cys Val Phe Phe

| | | | |
|--|-----|-----|------|
| 20 | 25 | 30 | |
| cta ggt acc caa aat gtt tct gca caa gag cag gga act caa ttg cca Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro | | | 144 |
| 35 | 40 | 45 | |
| gca agt gaa aac gca gtt gtg aac gtg gct gaa aat tca gtt gct atc Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile | | | 192 |
| 50 | 55 | 60 | |
| agc caa gca gtt tca gat aag gca gca gct caa aca act cta aca gaa Ser Gln Ala Val Ser Asp Lys Ala Ala Ala Gln Thr Thr Leu Thr Glu | | | 240 |
| 65 | 70 | 75 | |
| aca ccc caa gtt gaa gtt gag gag aaa gaa aat aag gta aat gct cct Thr Pro Gln Val Glu Val Glu Glu Lys Glu Asn Lys Val Asn Ala Pro | | | 288 |
| 85 | 90 | 95 | |
| gct tta aat gtc gat gac aaa ggt gca aaa tcc aaa gaa gat gtg aac Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn | | | 336 |
| 100 | 105 | 110 | |
| cct act gtt tca aag aca gca agt gaa gtg gaa gct tct gca gta act Pro Thr Val Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr | | | 384 |
| 115 | 120 | 125 | |
| gct act gat act aaa aat tca aat cca caa gtc aat gtt gaa act gac Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp | | | 432 |
| 130 | 135 | 140 | |
| tca aat gaa aaa gac gaa aat aaa atg gtc acc tcg gct cca gct aag Ser Asn Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys | | | 480 |
| 145 | 150 | 155 | |
| gag act gag gca gaa caa aat gag aaa gcg gta gca gaa aat ctt atg Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Ala Glu Asn Leu Met | | | 528 |
| 165 | 170 | 175 | |
| caa aga caa gct aag gct gtc tca att cca tcg caa ggc aat tat gtt Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val | | | 576 |
| 180 | 185 | 190 | |
| ttc caa gaa aca act cct gta aaa aat gca gcc agt atg tcc agc cca Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro | | | 624 |
| 195 | 200 | 205 | |
| acc caa ttt aac ttt gat aaa gga gat aag gtt ttt tat gat aag gtt Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Lys Val | | | 672 |
| 210 | 215 | 220 | |
| tta gaa gcg gat ggg cat caa tgg att agc tat gtg tct tac agt ggt Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly | | | 720 |
| 225 | 230 | 235 | |
| att cgt cgc tat gct cct att gct gtg aca att gaa gaa ttg aag caa Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln | | | 768 |
| 245 | 250 | 255 | |
| aaa gaa att gtt cag caa aat tta ccg gca caa gga acc tat cac ttt Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe | | | 816 |
| 260 | 265 | 270 | |
| act aaa caa gca gac gtt aaa aat gaa gct aaa ctg tct agt ccg acc Thr Lys Gln Ala Asp Val Lys Asn Glu Ala Lys Leu Ser Ser Pro Thr | | | 864 |
| 275 | 280 | 285 | |
| caa ttc tcg ttt tac aac gga gat cac gtt ttt tat gat aag gtt tta Gln Phe Ser Phe Tyr Asn Gly Asp His Val Phe Tyr Asp Lys Val Leu | | | 912 |
| 290 | 295 | 300 | |
| gaa gcg gat ggg cat caa tgg att agc tat gtg tcc tac agt ggt atc Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile | | | 960 |
| 305 | 310 | 315 | |
| cgt cgt tat gtt gtt att gga aag ctt acg aca caa ccc tct cca att Arg Arg Tyr Val Val Ile Gly Lys Leu Thr Thr Gln Pro Ser Pro Ile | | | 1008 |
| 325 | 330 | 335 | |
| gaa act aaa gta tca ggt act att gcc atc caa aat aaa acg gct caa | | | 1056 |

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| | | |
|---|-----------------------------|-----|
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| 340 | 350 | |
| caa ttc gat gtt atc att tct aat gtt tcc agc act caa ggc ata aaa | 1104 | |
| Gln Phe Asp Val Ile Ile Ser Asn Val Ser Ser Thr Gln Gly Ile Lys | | |
| 355 | 360 | 365 |
| gag gta tta gtg ccg gtt tgg tca gag caa aac ggg cag gat gac att | 1152 | |
| Glu Val Leu Val Pro Val Trp Ser Glu Gln Asn Gly Gln Asp Asp Ile | | |
| 370 | 375 | 380 |
| gtc tgg tat caa gca act aaa caa ggc gaa ggc gtt tat aag gtg acc | 1200 | |
| Val Trp Tyr Gln Ala Thr Lys Gln Gly Glu Gly Val Tyr Lys Val Thr | | |
| 385 | 390 | 400 |
| gtt aag gtc agt gac cat aaa aat aac agt ggt aac tat gac att cac | 1248 | |
| Val Lys Val Ser Asp His Lys Asn Asn Ser Gly Asn Tyr Asp Ile His | | |
| 405 | 410 | 415 |
| ctt tat tat cgc ctt tca act ggt gaa tta aag gtt gtt gga gga aag | 1296 | |
| Leu Tyr Tyr Arg Leu Ser Thr Gly Leu Lys Val Val Gly Gly Lys | | |
| 420 | 425 | 430 |
| aca act gag gtg gaa gca ccg aag cct gta gaa aca aca ggt atc att | 1344 | |
| Thr Thr Glu Val Glu Ala Pro Lys Pro Val Glu Thr Thr Gly Ile Ile | | |
| 435 | 440 | 445 |
| agc att gcc aat aag agc agc caa gga ttt gat gtt ttg att act aat | 1392 | |
| Ser Ile Ala Asn Lys Ser Ser Gln Gly Phe Asp Val Leu Ile Thr Asn | | |
| 450 | 455 | 460 |
| gct tcc agc act caa ggc ata aaa gag gta tta gtg cca gtt tgg tca | 1440 | |
| Ala Ser Ser Thr Gln Gly Ile Lys Glu Val Leu Val Pro Val Trp Ser | | |
| 465 | 470 | 480 |
| gaa caa aac gga cag gac gat att att tgg tat caa gca act aaa caa | 1488 | |
| Glu Gln Asn Gly Gln Asp Asp Ile Ile Trp Tyr Gln Ala Thr Lys Gln | | |
| 485 | 490 | 495 |
| ggc gaa ggc gtt tat aag gtg acc gtt aag gtc agt gac cat aaa aat | 1536 | |
| Gly Glu Gly Val Tyr Lys Val Thr Lys Val Ser Asp His Lys Asn | | |
| 500 | 505 | 510 |
| gac agt ggt aac tat gac att cac ctt tat tat cgc ctt tca act ggt | 1584 | |
| Asp Ser Gly Asn Tyr Asp Ile His Leu Tyr Tyr Arg Leu Ser Thr Gly | | |
| 515 | 520 | 525 |
| gaa tta aag gtt gtt gga gga aag aca acg aca gta gaa gcc cct aat | 1632 | |
| Glu Leu Lys Val Val Gly Gly Lys Thr Thr Thr Val Glu Ala Pro Asn | | |
| 530 | 535 | 540 |
| aga gtc aat ctt cca gca caa gga act tat gtt ttc act aat aaa gtt | 1680 | |
| Arg Val Asn Leu Pro Ala Gln Gly Thr Tyr Val Phe Thr Asn Lys Val | | |
| 545 | 550 | 555 |
| gag gtt aaa aat gag gcc aga aca tct agt cca act cag ttt acc ttt | 1728 | |
| Glu Val Lys Asn Glu Ala Arg Thr Ser Ser Pro Thr Gln Phe Thr Phe | | |
| 565 | 570 | 575 |
| aat aaa gga gaa agt att tac tat gac agt atc ttg aat gct gat gga | 1776 | |
| Asn Lys Gly Glu Ser Ile Tyr Tyr Asp Ser Ile Leu Asn Ala Asp Gly | | |
| 580 | 585 | 590 |
| cat caa tgg att agc tat cgt tcc tac agt ggt att cgt cgt tat att | 1824 | |
| His Gln Trp Ile Ser Tyr Arg Ser Tyr Ser Gly Ile Arg Arg Tyr Ile | | |
| 595 | 600 | 605 |
| atc att gat tga | 1836 | |
| Ile Ile Asp | | |
| 610 | | |

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Leu Gly Thr Gln Asn Val Ser Ala Gln Glu Gln Gly Thr Gln Leu Pro
35 40 45

Ala Ser Glu Asn Ala Val Val Asn Val Ala Glu Asn Ser Val Ala Ile
50 55 60

Ser Gln Ala Val Ser Asp Lys Ala Ala Ala Gln Thr Thr Leu Thr Glu
65 70 75 80

Thr Pro Gln Val Glu Val Glu Glu Lys Glu Asn Lys Val Asn Ala Pro
85 90 95

Ala Leu Asn Val Asp Asp Lys Gly Ala Lys Ser Lys Glu Asp Val Asn
100 105 110

Pro Thr Val Ser Lys Thr Ala Ser Glu Val Glu Ala Ser Ala Val Thr
115 120 125

Ala Thr Asp Thr Lys Asn Ser Asn Pro Gln Val Asn Val Glu Thr Asp
130 135 140

Ser Asn Glu Lys Asp Glu Asn Lys Met Val Thr Ser Ala Pro Ala Lys
145 150 155 160

Glu Thr Glu Ala Glu Gln Asn Glu Lys Ala Val Ala Glu Asn Leu Met
165 170 175

Gln Arg Gln Ala Lys Ala Val Ser Ile Pro Ser Gln Gly Asn Tyr Val
180 185 190

Phe Gln Glu Thr Thr Pro Val Lys Asn Ala Ala Ser Met Ser Ser Pro
195 200 205

Thr Gln Phe Asn Phe Asp Lys Gly Asp Lys Val Phe Tyr Asp Lys Val
210 215 220

Leu Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly
225 230 235 240

Ile Arg Arg Tyr Ala Pro Ile Ala Val Thr Ile Glu Glu Leu Lys Gln
245 250 255

Lys Glu Ile Val Gln Gln Asn Leu Pro Ala Gln Gly Thr Tyr His Phe
260 265 270

Thr Lys Gln Ala Asp Val Lys Asn Glu Ala Lys Leu Ser Ser Pro Thr
275 280 285

Gln Phe Ser Phe Tyr Asn Gly Asp His Val Phe Tyr Asp Lys Val Leu
290 295 300

Glu Ala Asp Gly His Gln Trp Ile Ser Tyr Val Ser Tyr Ser Gly Ile
305 310 315 320

IU-104.ST25:o:kag:patentin3.3

Arg Arg Tyr Val Val Ile Gly Lys Leu Thr Thr Gln Pro Ser Pro Ile
325 330 335

Glu Thr Lys Val Ser Gly Thr Ile Ala Ile Gln Asn Lys Thr Ala Gln
340 345 350

Gln Phe Asp Val Ile Ile Ser Asn Val Ser Ser Thr Gln Gly Ile Lys
355 360 365

Glu Val Leu Val Pro Val Trp Ser Glu Gln Asn Gly Gln Asp Asp Ile
370 375 380

Val Trp Tyr Gln Ala Thr Lys Gln Gly Glu Gly Val Tyr Lys Val Thr
385 390 395 400

Val Lys Val Ser Asp His Lys Asn Asn Ser Gly Asn Tyr Asp Ile His
405 410 415

Leu Tyr Tyr Arg Leu Ser Thr Gly Glu Leu Lys Val Val Gly Gly Lys
420 425 430

Thr Thr Glu Val Glu Ala Pro Lys Pro Val Glu Thr Thr Gly Ile Ile
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Ser Ile Ala Asn Lys Ser Ser Gln Gly Phe Asp Val Leu Ile Thr Asn
450 455 460

Ala Ser Ser Thr Gln Gly Ile Lys Glu Val Leu Val Pro Val Trp Ser
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Glu Gln Asn Gly Gln Asp Asp Ile Ile Trp Tyr Gln Ala Thr Lys Gln
485 490 495

Gly Glu Gly Val Tyr Lys Val Thr Val Lys Val Ser Asp His Lys Asn
500 505 510

Asp Ser Gly Asn Tyr Asp Ile His Leu Tyr Tyr Arg Leu Ser Thr Gly
515 520 525

Glu Leu Lys Val Val Gly Gly Lys Thr Thr Thr Val Glu Ala Pro Asn
530 535 540

Arg Val Asn Leu Pro Ala Gln Gly Thr Tyr Val Phe Thr Asn Lys Val
545 550 555 560

Glu Val Lys Asn Glu Ala Arg Thr Ser Ser Pro Thr Gln Phe Thr Phe
565 570 575

Asn Lys Gly Glu Ser Ile Tyr Tyr Asp Ser Ile Leu Asn Ala Asp Gly
580 585 590

His Gln Trp Ile Ser Tyr Arg Ser Tyr Ser Gly Ile Arg Arg Tyr Ile
595 600 605

Ile Ile Asp
610